

metallic plate (aluminum). After three minutes of contact, transfer is produced, general and special sensibility are transferred to the left. The patient perceives on the left side colors, odors, and sound, with perception of taste on the same side. He induces then successively a state of lethargy, catalepsy, and somnambulism for the left superior part of the body, whilst the right side remains unmoved. In the first two experiments it results that hypnotism is only manifested on the side of the body where general and special sensibility actually exists; and as the sensibility perceived and the movement willed have their seat in the opposite cerebral hemisphere, it ensues that the peripheral irritation which brings back sensibility and motility on the paralyzed side of the body is able to do so only by acting upon the opposite hemisphere. The transfer of cerebral activity has taken place from the left hemisphere to the right. In a third experiment the patient being awakened Dumontpallier found that the sensibility of the left side had a tendency to pass to the right side of the body. Before this spontaneous transfer was completed, he applied a metallic plate to each side of the forehead, and soon the sensibility was found re-conveyed to both sides of the body. In this state all the phenomena of the three periods of hypnotism have been experimentally verified on both sides of the body. In the third experiment it is demonstrated that in fixing the sensibility of the two sides of the body by the application of plates upon the two sides of the forehead, there has been determined and maintained a peripheral irritation necessary for the activity of each cerebral hemisphere. The functional activity of each cerebral hemisphere has been shown by the preceding experiments. He also demonstrated in other experiments that the phenomena of suggestion in the cataleptic state may be different for the right and left side of the body; the one side of the face has an expression<sup>\*</sup> different to that of the opposite side. He also proved that in the state of somnambulism, the illusions and hallucinations may be different for each cerebral hemisphere. It is known that there is a great hesitation about the real origin of the olfactory nerves and their conjectural decussation. In these experiments upon crossed transmission of peripheral sensory impressions to the cerebral centres, the olfactory and auditory nerves act in the same manner as other sensory nerves. Hence experimental physiology demonstrates a total or partial decussation of the olfactory, auditory, and optic nerves.—*Gazette des hôpitaux*, No. 148, 1883.

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HYPNOTISM.—Drs. Tamburini and Seppilli have arrived at the following conclusions from their studies on hypnotism:—

1. That the cause of the nervo-muscular excitability characteristic of the state of lethargy, the plastic flexibility of the muscles in the state of catalepsy, and the general contracture in the state of somnambulism are no more than so many different manifestations of the increased excitability of the central motor apparatus,

the proper and unique condition of hypnotism, which manifests itself under the different forms of exaggerated muscular tonicity, according to the duration and intensity of the stimuli which call it into activity.

2. In the hypnotic state for the suspension of the activity of the voluntary centres of consciousness, the whole cerebro-spinal axis is found in a state of exaggerated excitability, by which through the action of suitable stimuli there are easily produced hallucinations, suggestions, et cætera, in the sensory and psychical centres, and in the motor centres above-mentioned, manifestations of augmented muscular tonicity.

3. In the special phenomena which accompany the cataleptic state of hypnotism, as the slowing and suspension of respiration, the want of reaction of the muscles to all magnets, and the cessation of speech, they are very probably due to the weak contracture of the respiratory and voice-muscles, just as it exists in the other muscles.

4. The narrowing of the peripheral vessels which is seen in the passage from the phase of lethargy to that of catalepsy, is certainly the effect of a vascular reflex, produced by the stimulus which causes the passage from one state into another. This vascular reflex is analogous to that normally produced by external irritants. The dilatation of the vessels in the state of lethargy is due to the reëstablishment of the circulatory equilibrium.—*Rivista sperimentale di freniatria e di medicina legale*. Anno viii, Fasc. iv.

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CIRCULATION IN THE EYE.—Dr. M. W. Af. Schulten has made experiments upon this subject in the Physiological Laboratory at Leipsic. He had an ingenious ophthalmoscope which magnified the background of the eye thirty to fifty times, and an improved bulbous manometer. His results were as follows: 1. The elastic distensibility of the bulb is relatively great when small degrees of pressure are employed, but when increased to thirty or forty millimetres Hg. it is almost = 0.2. 2. The amount of blood in the eye is directly dependent on the pressure in its blood-vessels. 3. Every increase of this pressure, whether induced by increased supply or venous impediment produces hyperæmia. 4. Every decrease of blood-pressure (ligature of the carotid, venesection, or debility of the heart) immediately produces anæmia of the eye. 5. The blood-vessels of the eye are subject to the influence of vaso-motor nerves which are partially conducted by the cervical sympathetic, and probably partially by the trifacial. 6. Notwithstanding the marked changes in the contents of the blood-vessels of the eye, the calibre and appearance of the same, especially the arteries as far as they can be observed in the retina and choroid, are little changed. The tonus of the vessels, however, is plainly indicated by changes in the diameter of both arteries and veins. From these results the general conclusions are drawn:—that the circulation in the eye is subject to the same laws as everywhere, with the